AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 – 6 (Cancel)

7. (Currently Amended) A method of aligning a fiber optic bundle with an array waveguide comprising:

inserting pins into holes formed in both the fiber optic bundle and the array waveguide, wherein the holes formed in the fiber optic bundle are formed by placing two etched substrates together; [[and]]

pressing the fiber optic bundle and the array waveguide together so that the pins extend into both the fiber optic bundle and the array waveguide; and

finely aligning optical fibers in the fiber optic bundle with channels of the array waveguide; and

permanently bonding the fiber optic bundle to the array waveguide.

8. (Previously Presented) The method of claim 7, wherein permanently bonding the fiber optic bundle to the array waveguide further comprises:

applying an epoxy to bond the fiber optic bundle to the array waveguide.

9. (Original) The method of claim 8 further comprising:

dispensing an optical gel between the fiber optic bundle and the array waveguide.

10. (Original) The method of claim 9, wherein the optical gel has an index of refraction substantially similar to channels in the array waveguide.

11. (Original) The method of claim 10 further comprising:

curing the epoxy while maintaining alignment between the optical fibers and the channels of the array waveguide.

12. (Currently Amended) A method of aligning a fiber optic bundle with an array waveguide comprising:

coarsely aligning the fiber optic bundle with the array waveguide by inserting [[two]] pins into holes formed in an end of the fiber optic bundle,

wherein the holes formed in the fiber optic bundle are formed by placing two etched substrates together,

inserting opposite ends of the [[two]] pins into the array waveguide, and

pressing the fiber optic bundle and the array waveguide together; and

finely aligning the fiber optic bundle with the array waveguide by adjusting the fiber optic bundle and the array waveguide to improve photonic coupling between optical fibers of the fiber optic bundle and channels of the array waveguide; and

permanently bonding the fiber optic bundle to the array waveguide.

13. (Canceled)

14. (Previously Presented) The method of claim 12, wherein permanently bonding the fiber optic bundle to the array waveguide further comprises:

dispensing an epoxy between the fiber optic bundle and the array waveguide.

15. (Original) The method of claim 14, wherein the dispensing the epoxy is performed by dispensing an epoxy having an index of refraction substantially similar to the channels of the array waveguide.

16. (Previously Presented) The method of claim 7, wherein the two etched substrates are placed together to form multiple holes, and the multiple holes, and the multiple holes are filled by optical fibers except for the holes with the pins inserted in them.

17. (Previously Presented) The method of claim 12, wherein the two etched substrates are placed together to form multiple holes, and the multiple holes are filled by optical fibers except for the holes with the pins inserted in them.

18. (New) A method comprising:

aligning a fiber optic bundle and an array waveguide by inserting one or more selected from pins, dowels, and rods into one or more holes in the fiber optic bundle and the array waveguide and pressing the fiber optic bundle and the array waveguide together;

finely aligning optical fibers in the fiber optic bundle with channels of the array waveguide; and

bonding the fiber optic bundle to the array waveguide.

19. (New) The method of claim 18, wherein said bonding comprises bonding with an epoxy.

20. (New) The method of claim 18, wherein said finely aligning comprises manual adjustment.

21. (New) The method of claim 18, wherein said finely aligning comprises adjusting the fiber optic bundle and the array waveguide to improve photonic coupling between optical fibers of the fiber optic bundle and channels of the array waveguide.

22. (New) A method comprising:

coarsely aligning a fiber optic bundle and an array waveguide using one or more selected from pins, dowels, and rods;

finely aligning optical fibers in the fiber optic bundle with channels of the array waveguide; and

bonding the fiber optic bundle to the array waveguide.

23. (New) The method of claim 22, wherein said finely aligning comprises manual adjustment.

24. (New) The method of claim 22, wherein said finely aligning comprises adjusting the fiber optic bundle and the array waveguide to improve photonic coupling between optical fibers of the fiber optic bundle and channels of the array waveguide.

25. (New) The method of claim 22, wherein said bonding comprises bonding with an epoxy.